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European e-marketplace for mobility: a business case analysis for long distance passenger road transport operators

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Abstract

The European Wide Service Platform MOBiNET (www.mobinet.eu), co-funded by the EC, is creating an “Internet of Mobility” linking the main actors – travelers, transport operators, vehicle manufacturers and service providers – through a dynamic platform for online services available to everyone in Europe.

This paper describes a business case of service providers that could gain in publishing their services in a European e-marketplace. These service providers have been approached and their business model analyzed. The potential new business models enabled by MOBiNET are presented here.

Keywords: MOBiNET, Service Provider, Integration, Interoperability, Clearing

Introduction

MOBiNET project (www.mobinet.eu), co-funded by the European Commission under the 7th RTD Framework Programme, is creating an “Internet of Mobility” linking the main actors – travelers, transport operators, vehicle manufacturers, service providers – through a dynamic platform for online services available to everyone in Europe, anywhere and anytime.

Service providers such as bus and coach operators linking cities across European countries could be part of the MOBiNET community: their business could benefit from the network and passengers could benefit as well from a wider choice of intercity travel solutions. Bus and coach operators are anyway reluctant to share their services and this is why a careful analysis of the “business integration” model needs to be done.

The market

Each year, individuals across Europe travel more than 700 billion kilometres by bus and coach, making it one of the largest commercial modes of passenger transport and the largest mode of passenger land transport apart from the private car. Buses and coaches also provide more than 50% of European public transport services.

Buses and coaches are crucial for social cohesion: example of the UK market

	Regular bus and coach services	Train services
Median users' age	40-49	30-39
Individuals with income less than EUR 25,000 per year	73%	49%
Passengers without a car	40%	22%

Figure 1 – Buses and coaches figures in the UK market¹

Buses and coaches provide affordable, reliable and flexible transport services to all, regardless of their financial means or where they live. For many citizens, especially students, workers, the elderly, people with disabilities and those with low incomes, bus and coach transport is their only lifeline to education, work, care, leisure and tourism. Coach services are offered at a lower cost-per-passenger ratio than any other means of transport over distances between 500 and 1,000 kilometres.

Conventional booking and ticketing systems have been progressively replaced by on-line platforms and applications. New technologies and improved connectivity allows new marketing initiatives like integration of trips and fares between different operators, co-marketing and integration of services. But the innovation of the buses and coaches sector is not happening as rapidly as it should be. The value proposition for commuters, students, and budget-minded travellers is the bus is convenient, cheap, last-minute travel—and it has Wi-Fi and power stations. While many new bus riders are tech-savvy, most bus companies are still just selling tickets at the counter. Offering innovative services and on-line booking and ticketing facility will expand business of the buses and coaches operator. Connecting travel solutions with those of other operators will open the door to expanding the customer base. A EU-wide platform offering a framework for e-marketplace of mobility services has a huge potential to increase business of intercity bus operators.

Aggregators

A number of aggregators offering combination of travel solutions have appeared on the market like for example Wanderu in the US.

Wanderu aggregates trips from the most trusted and popular bus and train carriers in the country to bring the customer hundreds of options at the click of a mouse (13 million users since launch, 40 USD million/year). Wanderu shows the exact same fares, schedules, etc., as the carriers (including all the major North American carriers - Amtrak, Greyhound, Megabus, Boltbus and hundreds more). One important feature is the ability to compare prices and schedules, to route multi-legged trips between carriers, and overall simplify the search, comparison and booking process (which can be a bit bumpy on certain web sites). On top of that, you can filter and compare on amenities like free Wi-Fi, extra leg

¹ Source: IRU Facts and Figures for Buses and Coaches in Europe

MOBiNET e-marketplace for road passenger transport

room, plug-in outlet availability, etc. Wanderu invests in advertising and marketing promoting bus travel. Partners have expanded routes and coverages as a result of demand brought by Wanderu customers.

The reason for the success of an app compared to the others on the market is its simple, clean and intuitive interface making search for a travel solution easier, faster and more enjoyable than on its competitors”.

MOBiNET

MOBiNET project is building a platform able to offer: a one-stop travel assistance shop for end users; mobility data, facilities and services marketplace for data suppliers and service providers; an open service channel to users’ (in-vehicle & nomadic) terminals; an open “app store” offering a wide range of safe, secure and reliable mobility services.

The aim of MOBiNET is the simplification of the overall process of bringing together mobility service offering and demand. Thus, the idea of MOBiNET is to provide the required “glue” functionality to let service providers sell their services and enable them to easily compose new services to quickly react on changing market demands.

MOBiNET provides a portal dedicated to service providers to manage all aspects of their services and a corresponding end user market for MOBiNET applications. Together both core functionalities aim to create a new marketplace of mobility-related services to connect end users and service providers.



Figure – MOBiNET ecosystem

To support a proper migration of existing services, the functionalities of MOBiNET are accessible via dedicated APIs for mobile application and service developers.

MOBiNET is decomposed into six top-level subsystems: Service Directory, Identity Manager, Billing, MOBiAgent basically targets mobile devices of end users, Dashboard, Telematics Service Providers (TSP) Manager.

Payment and Billing MOBiNET component

The MOBiNET payment and billing component handles all financial transactions and provides a neutral instance which monitors those transactions between different parties.

Main functions are:

- configuration of parameters relevant for billing/clearing purposes
- real time log of all events relevant for billing/clearing purposes - tracking takes place with web services invoked by MOBiNET components and external Apps and services
- end of period (e.g. monthly) processing. Includes: data verification of real time log , calculation of the amounts due, generation of invoices for MOBiNET services, generation of all data necessary for the creation of invoices, payment.

Objectives of billing and clearing are combinations of:

- fees due to MOBiNET for its services: e.g. MOBiNET subscription fee, monthly fee for publication of a billable product on catalogue, one-off charge for each product sold through MOBiNET service directory, monthly fee paid by a Service Provider for each subscription/renewal of one of its products, etc.
- in a one-off product sale with postpaid: payment takes place with a direct debit at the end of the period; MOBiNET billing component generates SEPA² file
- in a one-off product sale with payment to MOBiNET virtual store: amount buyer pays to MOBiNET - MOBiNET collects at sale from buyer with its virtual store
- in a subscription scheme with monthly fee: buyer shall pay to Service Provider the amount due for each subscription renewal. Payment takes place with a direct debit; MOBiNET billing component generates SEPA file
- amount due among Service providers in B2B and B2B2C scenarios.

All fees due to MOBiNET are determined and configured by MOBiNET administrator (for subscription, for clearing services in B2B2C, etc.). Each Service Provider determines the price and the fare rules for its services; the amount is distributed to the MOBiNET billing component at each event relevant for billing purposes.

² <http://www.europeanpaymentscouncil.eu/index.cfm/about-sepa/sepa-vision-and-goals/>

Potential business models for bus and coach operators

The combination of those business rules supports a wide range of business models that can be applied to the buses and coaches industry. Long distance bus operators can publish their services on the platform and pay a fee to aggregating service providers. Or they could publish their data and pay a fee to integrate their data in the multimodal travel planner. Another possibility is that they have already an aggregator and they wish to find other services in the e-marketplace (complementary mobility services, information to plan the trip etc).

Potential business models for MOBiNET

The combination of business rules supports a wide range of business models for MOBiNET. A preliminary analysis of the type of fee with pros and cons is proposed here:

TYPE OF FEE	PROS	CONS
subscription fee - monthly installment automatically renewed at the end of the month	Simple to implement	Fees to platform access discourages promotion of MOBiNET
Service Provider pays a fee for each product published in MOBiNET catalogue	For Service Provider MOBiNET catalogue is an additional sale channel	Does not consider the volume of sale by each product
Service Provider pays a fee to MOBiNET (in %) for each product sold through service directory	Fees consider the volume of sale	Not applicable for free products/services (ex. APPs advertising based).
Service Provider pays a fee to MOBiNET each time someone click to one of its product to visualize product details or download the app on service directory	Applicable also for free products. Service provider pays only against a real interest on its product Proven business model (it is a simplification of Google search engine business model).	More complex implementation
Service Provider pays a greater fee for its products to be visualized on top of the catalogue on a certain search (ex. "PARKING") and for a	Proven business model (it is a simplification of Google search engine business model).	Even more complex implementation

given timeframe.		
<p>Service Provider sells products paid with monthly fees. Service Provider outsources B2C/B2B billing to MOBiNET. MOBiNET receive a monthly fee for such a billing service</p>	<p>Service Provider can outsource billing functions</p>	<p>Some Service Providers may prefer to keep a direct relationship with customers also for billing</p>
<p>B2B2C Clearing scenario. A fee is paid to MOBiNET each time a “cross provider” transaction takes place</p>	<p>End user keeps on using its own app and payment system, but on a wider area. Service Provider extends the area covered by its product taking part to MOBiNET network. MOBiNET gets paid for its clearing services and its enabling platform</p>	<p>Each service type (parking, bus ticketing, vehicle sharing, ecc) has specific requirements and requires a customization on integration module.</p>

Configuration of fares and fees:

- all fees due to MOBiNET are determined and configured by MOBiNET administrator (for membership, for clearing services in B2B2C, ecc)
- Each Service Provider determines the price and the fare rules for its services; the amount is communicated to MOBiNET billing component at each event relevant for billing purposes.

Conclusions

MOBiNET platform could potentially increase business of passenger road transport operators as existing platforms aggregating similar services demonstrate (e.g. Wanderu). MOBiNET could also enhance integration to other mobility related services. However a variety of business models can apply and all of them need to be carefully evaluated to ensure sustainability of either MOBiNET and the operator’s businesses.

Furthermore the impact of MOBiNET platform to Pan-European interoperability of mobility and transport services can be very high if the transportation eco-system will adopt such a standardized approach, not only in data format, but also in contracts, methodology, best practices. Payment services will be provided via a single service, so service providers not having their own payment solutions benefit from a standard payment service thus lowering development and operational costs. B2B services may have complex financial relationship via the clearing services provided by MOBiNET. Users benefit from the background B2B billing and clearing, as they are able to use their usual

mobility provider while paying for local services, without worrying to get “officially” connected to the local service provider.

An analysis of business models of potential services that could be enhanced by MOBiNET is on-going. It appears clear that a huge effort on marketing is needed in order to populate the marketplace and start cooperation between long distance operators through MOBiNET.

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